

Attorney Docket: APXX0003



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Jessica Pallach

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Cazalet et al.

Serial No. : 09/613,685

Filed: 7/11/2000

Title: METHOD AND APPARATUS OF MANAGING EPHEMERAL, FUGIBLE
COMMODITIES BASED UPON REAL-TIME FORWARD PRICES

Assistant Commissioner for Patents

Box DAC/ Pet. Make Special

Washington, DC 20231

Transmittal of Petition to Make Special and Cited References

Enclosed for the above-referenced application are the following:

1. Petition to Make Special;
2. 1449 Form;
3. Cited References; and
4. Return Postcard.

The Commissioner is authorized to charge the Petition Fee of \$130.00 and any additional fees or credit any overpayments to Deposit Account No. 07-1445 (Order No. APXX0002).

Respectfully Submitted,

Earle Jennings

Reg. No 44,804

Customer No. 22862



#5
04-20-01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Cazalet, et.al.

Docket No.: APXX0002

Serial No. : 09/613,685

Art Unit: Unassigned

Filed: July 11, 2000

Examiner: Unassigned

Title: METHOD AND APPARATUS OF MANAGING EPHEMERAL, FUNGIBLE
COMMODITIES BASED UPON REAL-TIME FORWARD PRICES

September 28, 2000

Assistant Commissioner for Patents

Washington, DC 20231

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Petition to Make Special Pursuant to 37 CFR 1.102

1. Special status is being requested for the above-cited application based on the following items:

2. All claims presented are directed to a single invention. Claim 1 is directed to a method of planning a device consuming an ephemeral, fungible commodity based upon a knowledge interval collection including at least one knowledge interval of the ephemeral, fungible commodity at a time interval containing a cost. Claims 2 to 20 are directed to methods further supporting planning for a consuming device of the ephemeral, fungible commodity. Claims 21 to 31 are directed to a method of controlling the consuming device including the planning steps of Claim 20. Claim 32 supports Claim 1 when the device further consumes a second ephemeral, fungible commodity. Claim 33 supports Claim 1 when the device further generates a second ephemeral, fungible commodity. Claim 34 supports Claim 1 when the device

transports a second ephemeral, fungible commodity. Claims 35 and 36 support Claim 1 when the ephemeral, fungible commodity is electricity in various forms. Claim 37 supports program operating systems implementing the method of Claim 1. Claim 38 supports a computing system including a program operating system implementing the method of Claim 1. Claim 39 supports a control system controlling a device consuming an ephemeral, fungible commodity based upon a knowledge interval collection. Claims 40 to 56 are directed to control systems further supporting Claim 39. Claim 57 is directed to a method of planning a device generating an ephemeral, fungible commodity based upon a knowledge interval collection. Claim 58 is directed to computing system support of a device generating an ephemeral, fungible commodity based upon a knowledge interval collection. Claim 59 is directed to a planning method for a device transporting an ephemeral, fungible commodity based upon a knowledge interval collection containing at least one knowledge interval. Claim 60 is directed to computing system support of planning a device transporting an ephemeral, fungible commodity based upon a knowledge interval collection.

3. The invention materially contributes to the conservation of energy through optimizing the control of the distribution of electrical power through the national power grids pursuant to 37 CFR 1.102(c) as found in the electronic version of the MPEP Seventh Edition Rev. 1, Feb., 2000. Pursuant to 37 CFR 1.102(d), no petition fee is sent herewith.

4. A pre-examination search was made covering U.S. Patents, European Patents and Patent Applications, Japanese Patent Abstracts and Chinese Patent Abstracts, as well as those databases in the Derwent system. The search was initially confined to Class 705, but was not limited just to that class.

5. One copy of each of the references deemed most closely related to the subject matter encompassed by said claims is attached.

6. A detailed discussion of the references, said discussion points out, with the particularity required by 37 CFR 1.111 (b) and (c), how the claimed subject matter is patentable over said references, follows:

U.S. Patent 4,803,632 of Frew, et al. teaches a basic utility meter, such as an electric utility meter which frequently samples current and voltage and predicts real power usage, which it then displays. The publication does not teach appreciation of the ephemeral nature, of the involved commodities. The fungible, ephemeral nature of electric power, that at a given place, for a given period of time, one kilowatt is essentially the same as another is completely missing in such systems. The publication does not teach planning for or controlling a device consuming, generating or transporting an ephemeral, fungible commodity based upon a knowledge interval collection comprising at least one knowledge interval of the ephemeral, fungible commodity at a time interval containing a cost.

U.S. Patent 5,794,212 of Mistr teaches a method providing communication between energy suppliers, energy purchasers and transportation providers having an administrator to assist in the transmission of energy as necessary for timely movement of energy. The method connects an energy supplier, connects an energy buyer, connects a transmission supplier and the administrator through a network. The method further includes receiving energy information from those connected, processing and storing that information, verifying the reliability of the energy transportation, providing access to the energy information stored in a connected database to assist the buyer in negotiating for the energy transportation, communicating the buyer acceptance to the energy supplier and transmission supplier. The method further includes invoicing the transmission of energy and paying the energy supplier and transmission supplier for the transmission.

The publication does not teach appreciation of the ephemeral nature, of the involved commodities. The fungible, ephemeral nature of electric power, that at a given place, for a given period of time, one kilowatt is essentially the same as another is completely missing in such systems. The publication does not teach planning for or controlling a device consuming, generating or transporting an ephemeral, fungible commodity based upon a knowledge interval collection.

U.S. Patent 5,799,151 of Hoffer teaches an interactive network integrating distributive messaging using a host computer and networks, real-time interactive communications,

a heirarchical knowledge matrix containing two familiar and comprehensive indices of classes of goods and classes of establishments and a legend of trade-related, cross-reference terms or parameters, a multiline programmable application, an integrated application program interface and integrated application programs.

The publication does not teach appreciation of the ephemeral nature, of the involved commodities. The fungible, ephemeral nature of electric power, that at a given place, for a given period of time, one kilowatt is essentially the same as another is completely missing in such systems. The publication does not teach planning for or controlling a device consuming, generating or transporting an ephemeral, fungible commodity based upon a knowledge interval collection.

U.S. Patent 5,842,187 of Williams teaches a system for providing charging information based upon a settlement system measuring the supply and demand for electricity in a distribution network. The publication does not teach planning for or controlling a device consuming, generating or transporting an ephemeral, fungible commodity based upon a knowledge interval collection.

U.S. Patent 5,870,140 of Gillberry teaches a system of remote meter viewing and reporting. The publication does not teach appreciation of the ephemeral nature, of the involved commodities. The fungible, ephemeral nature of electric power, that at a given place, for a given period of time, one kilowatt is essentially the same as another is completely missing in such systems. The publication does not teach planning for or controlling a device consuming, generating or transporting an ephemeral, fungible commodity based upon a knowledge interval collection.

U.S. Patent 5,897,607 of Jenney et al. teaches a method and apparatus for measuring use of a commodity and for transmitting the measurement over a global computer information network to a remote location. The publication does not teach recording power usage in terms changing actual energy prices, much less teach recording power usage in terms of energy prices based upon a real-time energy market. The publication does not teach planning for or controlling a device consuming, generating or transporting an ephemeral, fungible commodity based upon a knowledge interval collection.

U.S. Patent 5,905,975 of Ausubel teaches a computer implemented system and method of executing an auction. The publication does not teach appreciation of the ephemeral nature, of the involved commodities. The fungible, ephemeral nature of electric power, that at a given place, for a given period of time, one kilowatt is essentially the same as another is completely missing in such systems.

The publication does not teach planning for or controlling a device consuming, generating or transporting an ephemeral, fungible commodity based upon a knowledge interval collection.

U.S. Patent 5,924,486 of Ehlers et al. teaches an indoor environmental condition control and energy management system including an energy price receiving a projected energy unit price per time period schedule. The publication does not teach planning power usage in terms changing actual energy prices, much less teach planning power usage in terms of energy prices based upon a real-time energy market. The publication does not teach planning for or controlling a device consuming, generating or transporting an ephemeral, fungible commodity based upon a knowledge interval collection.

U.S. Patent 5,933,355 of Deb teaches a power line amapacity system invented by object oriented modeling and expert rules of the power line environment. The publication does not teach planning power usage in terms changing actual energy prices, much less teach planning power usage in terms of energy prices based upon a real-time energy market. The publication does not teach planning for or controlling a device consuming, generating or transporting an ephemeral, fungible commodity based upon a knowledge interval collection.

U.S. Patent 6,021,398 of Ausubel teaches a computer implemented system and method of executing an auction. The publication does not teach appreciation of the ephemeral nature, of the involved commodities. The fungible, ephemeral nature of electric power, that at a given place, for a given period of time, one kilowatt is essentially the same as another is completely missing in such systems. There is no clear teaching of multiple directional trading, which far more optimally supports this inherent fact of the physics, that at a given place, for a given period of time, one

kilowatt is essentially the same as another. The publication does not teach planning for or controlling a device consuming, generating or transporting an ephemeral, fungible commodity based upon a knowledge interval collection.

E.P.O. 0 893 775 A1 of Takriti, et al. teaches a computer implemented tool forecasting the spot price of electric power and amounts that may be traded in a deregulated market. These forecasts are made for different delivery points, providing probabilistic distributions for spot prices and trading allowing risk management of the power supply within a electricity network. The publication does not teach appreciation of the ephemeral nature, of the involved commodities. The fungible, ephemeral nature of electric power, that at a given place, for a given period of time, one kilowatt is essentially the same as another is completely missing in such systems. The publication does not teach planning for or controlling a device consuming, generating or transporting an ephemeral, fungible commodity based upon a knowledge interval collection.

Cazalet & Samuelson "E-Commerce for All Electricity Products", Public Utility Fortnightly, 2/1/2000 has been included to document a public disclosure of the Applicant made between the filing of the Provisional Patent Application No. 60/158,603, filed October 8, 1999 and the filing of this Patent Application. Provisional Patent Application No. 60/158,603 is relied upon for its priority filing date. While this material is not viewed by the Applicants as creating any bar under 35 U.S.C. §102 to the patentability of the invention, it is included by the Applicants to address the Duty of Candor.

Printout showing the web site www.houstonstreet.com/home.asp, taken 10/8/1999 has been included to demonstrate the state of the prior art at approximately the time of filing Provisional Patent Application No. 60/158,603, filed October 8, 1999. The publication does not teach appreciation of the ephemeral nature, of the involved commodities. The fungible, ephemeral nature of electric power, that at a given place, for a given period of time, one kilowatt is essentially the same as another is completely missing in such systems. There is no clear teaching of multiple directional trading, which far more optimally supports this inherent fact of the physics, that at a given

place, for a given period of time, one kilowatt is essentially the same as another. The publication does not teach planning for or controlling a device consuming, generating or transporting an ephemeral, fungible commodity based upon a knowledge interval collection.

Print-out from Avista Corporation Home Page, taken 10/8/1999 has been included to demonstrate the state of the prior art at approximately the time of filing Provisional Patent Application No. 60/158,603, filed October 8, 1999. The publication does not teach appreciation of the ephemeral nature, of the involved commodities. The fungible, ephemeral nature of electric power, that at a given place, for a given period of time, one kilowatt is essentially the same as another is completely missing in such systems. There is no clear teaching of multiple directional trading, which far more optimally supports this inherent fact of the physics, that at a given place, for a given period of time, one kilowatt is essentially the same as another. The publication does not teach planning for or controlling a device consuming, generating or transporting an ephemeral, fungible commodity based upon a knowledge interval collection.

Printout from [www. Bloomberg.com](http://www.Bloomberg.com), taken 10/8/1999 has been included to demonstrate the state of the prior art at approximately the time of filing Provisional Patent Application No. 60/158,603, filed October 8, 1999. The publication does not teach appreciation of the ephemeral nature, of the involved commodities. The fungible, ephemeral nature of electric power, that at a given place, for a given period of time, one kilowatt is essentially the same as another is completely missing in such systems. The publication does not teach planning for or controlling a device consuming, generating or transporting an ephemeral, fungible commodity based upon a knowledge interval collection.

"Flowgate Market." APX handout dated 1/28/2000 has been included to document a public disclosure of the Applicant made between the filing of the Provisional Patent Application No. 60/158,603, filed October 8, 1999 and the filing of this Patent Application. Provisional Patent Application No. 60/158,603 is relied upon for its priority filing date. While this material is not viewed by the Applicants as creating any bar under 35 U.S.C. §102 to the patentability of the invention, it is included by the

Applicants to address the Duty of Candor. There is some question about the exact date of this document, however, the reference on the first page to Automated Power Exchange being located in Santa Clara, CA indicates that it was generated no earlier than December 15, 1999 according to John Stremel, one of the applicants.

Stremel, J. "A Market Solution to Intra-zonal and Inter-Zonal Congestion" APX handout taken from 4/3/2000 has been included to document a public disclosure of the Applicants made between the filing of the Provisional Patent Application No. 60/158,603, filed October 8, 1999 and about the time of the filing of this Patent Application. While this material is not viewed by the Applicants as creating any bar under 35 U.S.C. §102 to the patentability of the invention, it is included by the Applicants to address the Duty of Candor.

Samuelson, R. "Flowgate Transmission Demo", APX handout, 4/6/2000 has been included to document a public disclosure of the Applicant. While this material is not viewed by the Applicants as creating any bar under 35 U.S.C. §102 to the patentability of the invention, it is included by the Applicants to address the Duty of Candor.

Stremel, J. "Liquid Transmission Markets, A how-to guide", APX handout, 11/11/1999 has been included to document a public disclosure of the Applicant made between the filing of the Provisional Patent Application No. 60/158,603, filed October 8, 1999 and the filing of this Patent Application. Provisional Patent Application No. 60/158,603 is relied upon for its priority filing date. While this material is not viewed by the Applicants as creating any bar under 35 U.S.C. §102 to the patentability of the invention, it is included by the Applicants to address the Duty of Candor.

Samuelson, R. "Transfer Distribution Factors Walkthrough of material from NERC web-site", 4/7/2000 has been included to demonstrate the state of the prior art as found on the NERC web-site between the filing of the Provisional Patent Application No. 60/158,603, filed October 8, 1999 and the filing of this Patent Application. This document was prepared to show the level of understanding of the physics regarding transfer distribution factors as found on the NERC web-site. This material was put together due to the extensive nature of the web-site documentation (several hundred pages of written reports and several multiple-megabyte Excel spreadsheets) to

present the Applicants' understanding of that web-site's contents and significance as part of fulfilling the Applicants' Duty of Candor.

The web-site documents do not teach appreciation of the ephemeral nature, of the involved commodities. The fungible, ephemeral nature of electric power, that at a given place, for a given period of time, one kilowatt is essentially the same as another is completely missing in such systems. The publication does not teach planning for or controlling a device consuming, generating or transporting an ephemeral, fungible commodity based upon a knowledge interval collection.

Samuelson, R. "Compilation of material from NERC web-site", downloaded before 12/13/1999, printed 3/7/2000, with a cover letter explaining the contents entitled "Prior Work on Flow Based Transmission Management" signed by Ralph Samuelson. has been included to demonstrate the state of the prior art as found on the NERC web-site between the filing of the Provisional Patent Application No. 60/158,603, filed October 8, 1999 and the filing of this Patent Application. This document was prepared to show the level of understanding of the physics regarding transfer distribution factors as found on the NERC web-site. This material was put together due to the extensive nature of the web-site documentation (several hundred pages of written reports and several multiple-megabyte Excel spreadsheets) to present the Applicants' understanding of that web-site's contents and significance as part of fulfilling the Applicants' Duty of Candor.

The web-site documents do not teach appreciation of the ephemeral nature, of the involved commodities. The fungible, ephemeral nature of electric power, that at a given place, for a given period of time, one kilowatt is essentially the same as another is completely missing in such systems. The web-site documents do not teach planning for or controlling a device consuming, generating or transporting an ephemeral, fungible commodity based upon a knowledge interval collection.

Cazalet, E. "Independent For Profit Power Exchanges and RTO Lite", APX handout, 5/28/1999 has been included to document a public disclosure of the Applicant made before the filing of the Provisional Patent Application No. 60/158,603, filed October 8, 1999. While this material is not viewed by the Applicants as creating any bar to the

patentability of the invention, it is included by the Applicants to address the Duty of Candor.

Birman, et. al., Chapter 1, "Introduction", Reliable Distributed Computing with the Isis Toolkit, ISBN 0-8186-5342-6, © 1994 has been included to demonstrate the state of the prior art as found in the distributed computing environments. While this material is not viewed by the Applicants as creating any bar to the patentability of the invention, it is included by the Applicants to address the Duty of Candor.

Birman, et. al., Chapter 11, "Reliable Communication in the Presence of Failures", Reliable Distributed Computing with the Isis Toolkit, ISBN 0-8186-5342-6, © 1994 has been included to demonstrate the state of the prior art as found in the distributed computing environments. While this material is not viewed by the Applicants as creating any bar to the patentability of the invention, it is included by the Applicants to address the Duty of Candor.

"Prior Experimental Public Use of Provisional Filing APXX0001PR" dated July 5, 2000 and signed by Jim Crossen, Director Marketing and Contracts of Automated Power Exchange. This document describes early experimentation leading to invention in the Provisional Patent Application No. 60/158,603, filed October 8, 1999. While this material is not viewed by the Applicants as creating any bar to the patentability of the invention, it is included by the Applicants to address the Duty of Candor.

7. I herein acknowledge that willful false statements and the like are punishable by fine or imprisonment, or both (18 U.S.C. 1001) and may jeopardize the validity of the application or any patent issuing thereon. All statements made of my own knowledge are true and all statements made on information or belief are believed to be true.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Earle Jennings".

Earle Jennings

Patent Agent No. 44,804

Customer No. 22862